EVALUATION OF N SOURCE IN NO-TILL WINTER WHEAT

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ABSTRACT

Nitrogen (N) source efficacy is dependent upon product used, application timing, and the condition of the environment in which it is placed. This study serves to look at how different N sources can be affected across different regions of Oklahoma, specifically in a heavy residue, no-till environment. N sources that were included in the study were Urea, Urea-Ammonium Nitrate (UAN), UAN + Anvol, and SuperU. The N sources were evaluated across nine site-years (SY) where each product had four different application timings at a base rate of 66 kg ha-1. The relative grain yields and protein measurements were used as the determining factors for establishing which N source produced the most favorable results across all SYs. An ANOVA analysis concluded that additives to N fertilizer sources had no statistical impact on grain yield or protein, therefore, we excluded the two N sources that contained additives out of the study. Our analysis also concluded that application timing and product had little interaction, so each were looked at independently. The analysis of product performance determined that urea had an overall higher bump in protein and yield levels over its UAN counterpart. The analysis also indicates that out of all application timings, a late February/early March application period had the highest results for protein and yield. The results indicate that a late February/early March application of Urea could potentially serve as the best option for production under similar environmental conditions. Additional research will be conducted to further examine product efficacy across application timings, however, reaction to different tillage settings will also be included in the project.